WO 2005/027849 PCT/US2004/030624

## What is claimed is:

- 1. A method of preventing rouge in water which comprises:
- a. providing a source of water which is substantially free of carbon dioxide;
  - b. distilling said water in an environment which is substantially free of carbon dioxide; and
  - c. storing said distilled water in an environment which is substantially free of carbon dioxide.
- 2. The method of claim 1 wherein the environment which is substantially free of carbon dioxide is an inert gas, nitrogen, oxygen or a mixture thereof.
- 3. The method of claim 1 wherein the distilling step and the storing step occur in the same environment which is substantially free of carbon dioxide.
- 4. A rouge free pharmaceutical water for injection purification system comprising:
  - a. a water intake:
  - b. a multi-effect still connected to said water intake, wherein said multieffect still contains an internal controlled atmosphere which is substantially free of carbon dioxide;
  - c. a connector for the passage of water from the multi-effect still to a water for injection storage tank; and
  - d. a controlled atmosphere blanketing the water in the storage tank, wherein said controlled atmosphere is substantially free of carbon dioxide.
- 5. The rouge free water for injection purification system of claim 4, further comprising a closed loop with a heat exchanger attached to the storage tank, wherein

WO 2005/027849 PCT/US2004/030624

the water is circulated through the heat exchanger to maintain the water at a desired temperature.

- 6. The rouge free water for injection purification system of claim 4 or 5, which is constructed out of stainless steel.
- 7. The rouge free water for injection purification system of claim 6, wherein the stainless steel is 316 stainless steel.
- 8. A rouge free pharmaceutical water for injection purification system comprising:
  - (a) a wate intake;
  - (b) a first deaerator;
  - (c) a first input to said first deaerator, wherein said first input receives a supply of a carbon dioxide free controlled atmosphere for the first deaerator;
  - (d) a first connector connecting the first deaerator to a heat exchanger;
  - (e) a second connector connecting the heat exchanger to a vapor compression still;
  - (f) a third connector connecting the vapor compressions still to the heat excharger;
  - (g) a fourth connector connecting the heat exchanger to a second deaerator;
  - (h) a second input into said second deaerator, wherein said second input receives a supply of a carbon dioxide free controlled atmosphere for said second deaerator;
  - (i) a fifth connector which connects the second deaerator to a water for injection storage tank; and
  - (j) a water for injection storage tank input, wherein said water for injection storage tank input receives a supply of carbon dioxide free controlled atmosphere for the water for injection storage tank.

WO 2005/027849 PCT/US2004/030624

9. The rouge free water for injection purification system of claim 8, further comprising a closed loop with a heat exchanger attached to the storage tank, wherein the water is circulated through the heat exchanger to maintain the water at a desired temperature.

- 10. The rouge free water for injection purification system of Claim 8 or 9, which is constructed out of stainless steel.
- 11. The rouge free water for injection purification system of claim 10, wherein the stainless steel is 316 stainless steel.